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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,930	03/08/2006	Dirk Auf Der Heide	03079K	3811
ProPat Klaus Schweitzer 425-C South Sharon Amity Road Charlotte, NC 28211			EXAMINER JACOBSON, MICHELE LYNN	
			ART UNIT 1782	PAPER NUMBER
			MAIL DATE 09/29/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/570,930

Applicant(s)

AUF DER HEIDE ET AL.

Examiner

MICHELE JACOBSON

Art Unit

1782

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/29/10 has been entered.

Examiner Notes

2. Any objections and/or rejections made in the previous action, and not repeated below, are hereby withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Claim 16 recites "wherein the liquid smoke has a viscosity ranging from 15 s to 18s (measured using the Ford4 cup). In the remarks submitted 12/7/09 applicant has referenced page 8, lines 34-35 and page 8 lines 9-10 which discloses the viscosity of individual examples of 15.2 and 18 s measured using the Ford4 cup and does not recite a range in order to support this recitation. As stated in MPEP 2163.05 III "With respect to changing numerical range limitations, the analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure. In the decision in *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), the ranges described in the original specification included a range of "25%- 60%" and specific examples of "36%" and "50%." A corresponding new claim limitation to "at least 35%" did not meet the description requirement because the phrase "at least" had no upper limit and caused the claim to read literally on embodiments outside the "25% to 60%" range, however a limitation to "between 35% and 60%" did meet the description requirement". In the instant case, no range of viscosities is recited in the specification. Therefore, there is no support for the new range of 15 s to 18 s claimed since no original range was present.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-8 and 12-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 1 and 13 are indefinite for the recitation "a time of action of the liquid smoke of at least 5 days is not necessary." This recitation fails to state what a time of action of at least 5 days is not necessary *for*. Is it not necessary for the casing to function? Is it not necessary for any food stored in the casing? What "action of the liquid smoke" is being referred to? Since it is unclear what this recitation is referring to, one of ordinary skill in the art at the time the invention was made would not be reasonably apprised of the full scope and breadth of the invention claimed in claims 1 and 13. Since it is unclear what structural or functional characteristics this limitation would impart to the food casing claimed, a casing meeting the rest of the limitations of the claim will be interpreted to read on this limitation. Claims 2-8, 12 and 14-17 are rejected as being indefinite for being dependent from indefinite claim 1. Appropriate correction is required.

9. Claim 17 recites "wherein the surface energy effects uniform application of the liquid smoke". It is unclear from this recitation what type of application would be necessary in order for the application to be considered "uniform". Does the liquid smoke have uniform thickness? Is it uniformly distributed? Are different spots of liquid smoke uniformly spaced? Since it is unclear from claim 17 what could be considered

"uniform" one of ordinary skill in the art would not be reasonably apprised of the full scope and breadth of the invention claimed. For the purpose of examination, a surface energy greater than 35 dyn/cm will be interpreted to "effect uniform application of the liquid smoke". Appropriate correction is required.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-8 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krallman et al. U.S. Patent Application Publication No. 2003/0059502 (hereafter referred to as Krallman) and Stenger et al. U.S. Patent No. 5,399,427 (hereafter referred to as Stenger) and Ramesh et al. U.S. Patent No. 6,221,410 (hereafter referred to as Ramesh) and Erk et al. U.S. Patent No. 4,897,295 (hereafter referred to as Erk).

12. Krallman teaches a smoke-impregnated at least three-layer tubular film with a polyamide inner and outer layer that gives the finished sausage a smoke flavor. (Para. 13, 26) The casing may be biaxially oriented and shrinkable. (Para. 14) The liquid smoke emulsion that is coated on the inside of the tubular casing is recited to comprise liquid smoke, browning agents and optionally water. (Para. 16-20) The mixture is

recited to be applied to the interior surface of the tubular casing using the art-recognized bubble technique. (Para. 30) Useful polyamides for the layers of the invention are recited to be nylon 6 and partially aromatic copolyamide. (Para. 41)

13. Krallman is silent regarding the water vapor permeability of the polyamide layers, and the thickness of the polyamide films.

14. Stenger et al. teaches a polyamide 6 single layer sausage casings composed of nylon 6 having a thickness of 39-41 μm and a water vapor permeability of 20 $\text{g}/\text{m}^2/\text{day}$. (Table 1, comparative example 1) Stenger also recites that sausage casings with too high of a water vapor permeability lead to undesirable weight losses and drying of the sausage. (Col. 1, lines 60-64)

15. Krallman and Stenger both teach polyamide 6 sausage casings comprising Nylon 6. As evidenced by Stenger, the polyamide sausage casing of Krallman would be expected to exhibit a water vapor permeability of 20 $\text{g}/\text{m}^2/\text{day}$ and likely less since the casing of Krallman would be comprised of two layers of polyamide.

16. Regarding the water vapor permeability values recited in claims 1 and 4: The casing recited by Krallman would inherently have a water vapor permeability of 20 $\text{g}/\text{m}^2/\text{day}$ and likely less as evidenced by Stenger.

17. Regarding the exclusion of a browning agent in claims 1 and 13: Although Krallman recites that the composition impregnating the polyamide sausage casing of the invention should include a browning agent, it would have been obvious to one having ordinary skill in the art at the time the invention was made to delete the browning agent from the solution in order to lower costs of the composition by requiring less materials.

It would have additionally been obvious to delete the browning agent when an increase in the brown color of the sausage was not desired. As stated in MPEP 2144.04

"Omission of an element and its function is obvious if the function of the element is not desired".

18. Krallman is silent regarding the surface energy of the sausage casing recited.

19. Ramesh teaches that it is known that a polar surface is needed for adhesion of a film to a meat product. Adhesion of the film to the meat is frequently needed in order to prevent "purge", i.e., "cook-out", which can occur during the cooking of the meat packaged in the film if the film does adhere to the meat during cook-in. A polar film surface can be provided by using: (a) polar resin in the film layer in contact with the meat, **and/or** (b) surface modification, such as corona treatment, of the film surface in contact with the meat. Typically, polar polymers used for meat adhesion include: ethylene/unsaturated acid copolymer, anhydride-containing polyolefin, and polyamide. (Col. 2, lines 13-24)

20. Krallman and Ramesh are both directed towards sausage casings. Ramesh evidences that it was well known in the sausage casing art that the interior of a sausage casing needs to have a high adhesion to the meat encased. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have corona treated the interior surface, as taught by Ramesh, of the polyamide sausage casing of Krallman in order to produce a casing with improved meat adhesion properties in addition to the adhesion provided by the use of a polar polymer.

21. Regarding the values of surface energy recited in claims 1, 2 and 13 and the corona treatment recited in claim 8: Corona treating as recited by Ramesh would have inherently produced a corona treated polyamide sausage casing as claimed in claim 8 with surface energy values such as those recited in claims 1, 2 and 13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have optimized the amount of corona treatment in order to obtain the most beneficial properties of adhesion. Such an optimization would have resulted in a casing such as claimed in claims 1, 2 and 13.

22. Krallman is silent regarding the swelling value of the polyamide inner layer of the casing.

23. Erk teaches polyamide sausage casings containing at least one polyamide which can absorb at least 5% of their own weight in water prior to saturation. (Col. 3, lines 5-10) A sausage casing that is treated with water prior to filling avoids the problems of the need for additional lubricating agent and provides a casing that can be filled to a constant diameter and that can be tied off and clipped without error and without any loss and so that the filled casings display no visible tightening folds. (Col. 2, line 65-Col. 3, line 2) It is particularly preferred that the casing consists of at least one of the polyamides 6, 6.6 or a mixture of PA-6 and PA 6.6. (Col. 4, lines 46-50) The casings produced are recited to have thicknesses between 25 to 100 μm . (Col. 5, lines 19-22)

24. Regarding the water swelling values in claims 1, 3 and 13: As evidenced by Erk, casings comprising Nylon 6 layers can absorb at least 5% of their own weight in water prior to saturation. This absorption of water is directly related to the swelling value of

the food casing. Since the casing of Krallman is made of the same materials as claimed by applicant, and as evidenced by Erk would have good water absorbing capabilities, the casing of Krallman would inherently display a water swelling values as claimed in claims 1, 3 and 13.

25. Regarding the thickness values for the single and multilayer casings recited in claims 1 and 13: Since Krallman, Stenger and Erk are directed towards sausage casings it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized polyamide films close to the thicknesses recited by Stenger (about 40 μm) and Erk (25-100 μm) to produce the sausage casing recited by Krallman because this thickness was known in the art to be useful. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have varied the result effective variable of thickness of the polyamide layers depending on the strength required for the application the casing was being used for. Such an optimization of the thickness of the polyamide layers for the casing produced by the combination enumerated above would have resulted in the invention claimed in claims 1 and 13.

26. Regarding claim 5: It is well known in the sausage casing art to produce seamless polyamide casings. The liquid smoke material recited by Krallman is applied to the sausage casing in tubular form, therefore it would have been obvious to one of ordinary skill in the art to have utilized either a seamed or seamless polyamide casing for the invention of Krallman. Production of the corona treated invention of Krallman

utilizing a seamless polyamide casing would have produced the invention as claimed in claim 5.

27. Regarding claims 6 and 7: Krallman recites that the sausage casing of the invention can be biaxially oriented and is shrinkable. It is well known in the sausage are to heat set shrinkable films and to minimize the residual shrinkage thereof. The optimization of the corona treated invention of Krallman according to these well known properties would have produced the invention as claimed in claims 6 and 7.

28. Regarding claim 12: Krallman and Stenger clearly recite using the polyamide casings recited for packaging sausage. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have packaged any sausage within the casing produced by the combination of Krallman with the teachings of Stenger such as those claimed in claim 12.

29. Regarding claim 14: Krallman discloses nylon 6 casings as claimed in claim 14.

30. Regarding claims 15 and 16: It would have been obvious to one having ordinary skill in the art at the time the invention was made to have controlled the viscosity of the liquid smoke solution in order to facilitate the coating of the solution on the interior of the casing. Krallman specifically discloses that water is optionally present in the coating solution. Obviously, the presence or absence of water would affect the viscosity of the solution and therefore water is interpreted to read on the limitation of "an additive to set the viscosity" recited in claim 15. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have varied the result effective

variable of water content in order to optimize the viscosity of the solution for coating.

This obvious optimization would have resulted in the invention claimed in claim 16.

31. Regarding claim 17: The surface energy of the casing of Krallman modified with the teachings of Ramesh would be the same as that claimed in claim 1, from which claim 17 depends, and therefore would effect "uniform application of the liquid smoke".

Response to Arguments

32. Applicant's arguments filed 7/29/10 have been fully considered but they are not persuasive.

33. Applicant's arguments on page 6 of the remarks regarding the rejection of claim 16 for new matter have been considered but not found persuasive. As stated by applicant the examples "indicate that both a viscosity of 15 s and a viscosity of 18 s impart acceptable liquid smoke wetting uniformity", however, there is no indication that values between these two values were useful. As stated above, according to the fact pattern in *In re Wertheim* an initial range has to be recited in order for data points to be used as end points for a range. In the instant case only two individual values were recited and no range was disclosed. Therefore, the recitation in claim 16 of a new range is not supported.

34. Applicant states on page 9 of the remarks that "the only cited reference directed to smoke transport casings is US357". While the examiner assumes applicant is referring to U.S. Patent No. 7,022,357 which is the patent that issued from the

application which corresponds to U.S. Patent Application No. 2003/0059502, referred to by the examiner herein as Krallman, "US357" was never cited by the examiner.

Applicant's invention was rejected over U.S. Patent Application No. 2003/0059502, **not** U.S. Patent No. 7,022,357. For the purpose of future communication and to maintain the clarity of the prosecution record, the examiner requests that applicant refer to the proper publications when discussing the pending rejections.

35. The examiner does not dispute applicant's assertions on page 9 of the remarks that Krallman recites the inclusion of browning agent in the casing coating solution. However, as stated above, there would have been numerous motivations for one of ordinary skill in the art to delete the browning agent disclosed. The deletion of the browning agent would still yield a casing suitable for its intended function, and would have been obvious to one of ordinary skill who did not desire the function of the browning agent. The assertion that Krallman "requires" a browning agent on page 10 of the remarks is not persuasive in light of the teachings of the art and the level of ordinary skill in the art.

36. In response to applicant's arguments against the references individually on pages 10-16, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The obviousness rejection presented relies upon all of the references cited which are utilized to establish the level of ordinary skill in the art, the properties of materials used in the art and the motivations of one of ordinary skill in the

art. Applicant's repeated assertions that the individual references fail to teach each and every element of the claimed invention individually are not relevant since they fail to take into account that the claims were rejected over a combination of references.

37. Applicant asserts on page 10 of the remarks that the motivation stated by the examiner that removing the browning agent would reduce the cost of the coating is "at best, conjecture". It is unclear to the examiner how the deletion of an additional element would not lower the cost of the coating since fewer elements would be required. Is liquid smoke more expensive if one does not use browning agent? Applicant has failed to provide any evidence to support this assertion and, therefore, applicant has failed to negate the motivation for deletion of the browning agent stated by the examiner.

38. Regarding the deletion of the browning agent reducing costs applicant asserts on page 10 of the remarks that "one skilled in the art would instead expect that the resulting product would require even more smoke-emulsion soak time than its current 5 to 10 days for a smoke emulsion of lesser color depth to sufficiently penetrate the casing". It is unclear how increased soaking time would increase the cost of the coating solution. Additionally, as stated above, for one not desiring the increased browning provided by the browning agent, deletion of the browning agent would have been the obvious choice. As such a *prima facie* case for deletion of the browning agent still exists.

39. Applicant has asserted on page 12 of the remarks that Stenger fails to teach every element of the invention claimed. However, note that while Stenger does not disclose all the features of the present claimed invention, Stenger is used as a teaching

reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, the typical thicknesses of polyamide 6 sausage casings and the water vapor permeability of polyamide 6 and in combination with the primary reference, discloses the presently claimed invention.

40. Applicant asserts on page 13 of the remarks that Ramesh much be considered in its entirety for all that it teaches. However, this does not require the every teaching in Ramesh be relied upon for modification of the casing of Krallman. However, "applicant must look to the whole reference for what it teaches. Applicant **cannot merely rely on the examples and argue that the reference did not teach others.**" *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). The examples of Ramesh do not negate the full disclosure. Ramesh teaches a certain concept, namely, the utility of corona treatment to increase the adhesion of sausage casings to a meat product and in combination with the primary reference, discloses the presently claimed invention.

41. Applicant asserts on page 13 of the remarks that Ramesh "expressly cautions that use of polyamide in contact with food can provide 'too much meat-adhesion'". This is an inaccurate representation of the teachings of Ramesh. The passage cited by applicant actually states "polymers such as polyamide **can, in some instances**, provide too much meat-adhesion and tend to pull meat off during unpacking of the meat". (emphasis added) This recitation does not translate to the express caution asserted to be disclosed by applicant nor does this passage expressly discourage the improvement

in the surface energy of polyamide 6 by corona treatment stated above. Ramesh also does not expressly state that utilizing a polar polymer and surface treatment would yield undesirably effects. In fact, contrary to the assertion of applicant on page 13, it is the examiners position that surface treatment of a polar polymer would be obvious since both techniques of increasing meat adhesion are disclosed to be desirable. Ramesh clearly states this combination when it discloses "A polar film surface can be provided by using: (a) polar resin in the film layer in contact with the meat, **and/or** (b) surface modification, such as corona treatment, of the film surface in contact with the meat". (Col. 2, lines 13-24)

42. Applicant's assertion regarding swelling values on page 14 of the remarks are addressed above.

43. Applicant's assertion on page 15 of the remarks that because the cited references address different problems within the sausage casings arts that one of ordinary skill could not be guided by their disclosures is not persuasive. Applicant further states on page 15 "that food casing suitable for one application will not automatically work in another application, as each application has its own unique requirements. Therefore, a food casing for one application may not suggest a solution for another application". This argument would be relevant if the cited references were directed to different food casing applications. However, all of the cited references are directed towards sausage casings and as such are **clearly** analogous art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELE JACOBSON whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Thursday 8:30 AM-7 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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